

Re: Help with Sony SLV-N750 VCR

Source: <http://sci.tech-archive.net/Archive/sci.electronics.repair/2009-01/msg00909.html>

- *From:* "Arfa Daily" <arfa.daily@xxxxxxxxxxxxx>
 - *Date:* Wed, 28 Jan 2009 01:49:43 -0000
-

"G B" <geeberry@xxxxxxxxxxxxx> wrote in message
[news:y4Jfl.48235\\$8a4.39372@xxxxxxxxxxxxx](mailto:news:y4Jfl.48235$8a4.39372@xxxxxxxxxxxxx)

"Arfa Daily" <arfa.daily@xxxxxxxxxxxxx> wrote in message
[news:wZ8fl.7570\\$1s3.6110@xxxxxxxxxxxxx](mailto:news:wZ8fl.7570$1s3.6110@xxxxxxxxxxxxx)

"b" <reverend_rogers@xxxxxxxx> wrote in message
news:d28c65b1-42f1-4dbd-8447-b1907cf101dc@xx

On 23 ene, 04:51, "G B"
<geebe...@xxxxxxxxxxxxx> wrote:

Hi,

I have a Sony SLVN750. It failed such that it had no time display and would no longer power up when pressing the power switch. I tore it apart and "shot-gun" replaced the nine capacitors in the general area of the power supply with capacitors of the same value. It now will power up and even play a tape BUT when it is powered down (in standby) the display blinks on and off. It seems the power supply is cycling on and off. Any idea

Re: Help with Sony SLV-N750 VCR

what
would cause this? Any help
is appreciated...

"G B" <geeberry@xxxxxxxxxxxxxxxx> wrote in message
[news:8T4fl.29\\$np4.6@xxxxxxxxxxxxxxxx](mailto:news:8T4fl.29$np4.6@xxxxxxxxxxxxxxxx)

The display isn't flashing per say...

The display goes blank after the supply appears to shut itself down. It returns after say 500 msecs.. then stays on for about a second.. then goes blank and starts again. Also every time the display blinks, the carriage motor appears to go through its position check... I did replace the all the "big" electrolytic caps.. the largest were a couple of 1000uF... I suspect that section of the circuit is working properly.. I think there must be a standby power section of the circuit which is toast... any ideas?

Have you replaced any electros in the front end or were they all secondary side ? This sort of odd behaviour in switchers can be symptomatic of small caps – often only from 1 to 47uF in value – situated around the oscillator / control IC having gone high ESR. You will often find them located close to some other component or heatsink, which runs hot. Do you have an ESR meter ? Just as an aside, it makes a thread and the replies much easier to follow if you bottom-post rather than top. :-)

Arfa

I replaced 9 caps all in the area of the switcher, or at least where I think the switcher is. I replaced the large regulation cap (82uF @ 200V) and I replaced a small (4.7uF@50V) on what I would consider the primary side. (prior to the large transformer). I replaced all the electorlytics: 10uF, 100uF, 330uF, 470uF, and 1000uF values on what I think is the secondary. Do you know if the switcher provides the boot-strap voltage in standby mode? Or do they have another regulator somewhere off the line regulation circuit? I have also what appears to be a hot-spot on the circuit board around QIP107, RIP110, QIP108, ZDIP05,

Re: Help with Sony SLV-N750 VCR

and DIP109. It doesn't feel warm to the touch after it has been running for a while.. so the hot-spot is a bit of a mystery. I don't have an ESR meter here. I guess I could probe the removed components at work... of course I don't know what the ESR of the original caps. I thought I could use a DMM to get an indication, but it must be marginal enough I can't tell which one is the bad actor.

As for the posting at the top vs bottom... thank Outlook for always starting at the top rather than the bottom of the post ;)

Yeah, that's a problem with it. Nobody gets too upset on here, but on some groups they get *really* arsey if you do it. Top posting can sometimes confuse a thread, especially when specific questions are being answered, and the majority are posting one way, and someone is posting the other ...

As to your question, I would expect that the standby supplies for the system control micro are derived from the switcher, but I couldn't say for sure. It's been a while since I did any work on any VCRs, Sony included. Knowing what the ESRs of the original caps should be is not really an absolute. As I have commented a number of times with regard to using ESR meters, a lot of it is intuition, with the meter just acting as a backup. In general, the smaller the value of the cap, the higher its ESR will read on a meter. The small ones, such as your 4.7uF, should not read higher than a few ohms. 47uF up to say 220uF should not be higher than a couple of ohms. Above this capacitance value, ESRs will generally be in decimals of an ohm, and a factor of 10 lower than that for the 'big' values of 2200uF and up. In general, the higher the voltage working, the lower the range of ESR values that would be 'normal' for any particular cap. Usually, if a cap has reached a point where it is causing trouble in a switcher, its ESR value will have gone off with the fairies, and be easily spotted as the bad one. Interestingly, its capacitance value will often read near enough correct on a C - meter.

What your remaining problem is, I really don't know without looking at a schematic for the power supply, but one thing I would say is that it seems odd that you have managed to cure the primary problem with replacing whichever cap it was amongst the ones that you changed, and then been left with this slightly 'odd' problem. A faulty cap is a good call for the original problem, and was almost certainly the correct diagnosis, but it is very rare, when this is the case, for there to be any other issues. If it were me, I think that as a first move, I would go over all my work again very carefully, making sure that I had got the right values in the right places (for that you would need a schematic), and that I had not accidentally put any in backwards (easily done :-\). Also, make sure that the replacement types are 'suitable' i.e. the correct or very close value, similar voltage working, low ESR type. They should also be 105 degree or better types for future reliability. Also, I would not trust any caps that you have had lying around in a drawer for years, or any radial leaded types as being suitable.

Re: Help with Sony SLV-N750 VCR

Stating the obvious maybe, but also be sure that your soldering is all good. If it's not something which you do all day, it is easy to get a poor joint on a component, without realising it ...

Arfa

.